Amendments to the Claims:

1. (Currently amended) A method of inducing a dopaminergic neuronal fate in a neural stem cell or neural progenitor cell, the method comprising:
expressing Nurr1 above basal levels within the cell, co-culturing the cell with a Type 1 astrocyte of the ventral mesencephalon, and thereby contacting the cell in vitro with one or more factors secreted from ~~said~~ Type 1 astrocyte of the ventral mesencephalon, whereby dopaminergic neurons are produced.
2. (Currently amended) A method according to claim 1 comprising contacting the cell with fibroblast growth factor 8 (FGF8).
3. (Original) A method according to claim 1 comprising transforming a neural stem cell or neural progenitor cell with Nurr1.
4. (Canceled)
5. (Currently amended) A method according to claim ~~1~~ wherein the Type 1 astrocyte is immortalized or is of an astrocyte cell line.
6. (Previously presented) A method according to claim 1 wherein said cell is mitotic when it is contacted with said one or more factors.
7. (Previously presented) A method according to claim 1 wherein said cell is additionally contacted with one or more agents selected from the group consisting of: basic fibroblast growth factor (bFGF) epidermal growth factor (EGF), an activator of the retinoid X receptor (RXR), and 9-cis retinol.
8. (Currently amended) A method according to claim 1 wherein said cell is additionally contacted with a member of the fibroblast growth factor (FGF) family of

growth factors.

9. (Original) A method according to claim 8 wherein said cell is contacted with bFGF or EGF, and SR11237.

10. (Previously presented) A method according to claim 1 wherein the neural stem cell or neural progenitor cell is pretreated with bFGF and/or EGF prior to contacting the cell with one or more factors secreted from a Type 1 astrocyte of the ventral mesencephalon.

11. (Previously presented) A method according to claim 1 further comprising formulating a dopaminergic neuron produced by the method into a composition comprising one or more additional components.

12. (Original) A method according to claim 11 wherein the composition comprises a pharmaceutically acceptable excipient.

13. (Previously presented) A method according to claim 12 further comprising administering the composition to an individual.

14. (Previously presented) A method according to claim 13 wherein the dopaminergic neuron is implanted into the brain of the individual.

15. (Previously presented) A method according to claim 14 wherein the individual has Parkinson's disease.

16.-28. (Canceled)

29. (Currently amended) A method of screening for a receptor or receptors for the factor or factors which are obtained ~~obtainable~~ from Type 1 astrocytes of the ventral mesencephalon and which induce a dopaminergic fate in neural stem or progenitor cells expressing Nurr-1 above basal levels, the method comprising comparing neural stem or progenitor cells with or without expression of Nurr-1 above basal levels within the neural stem or progenitor cells, to identify said

receptor or receptors.

30. (Currently amended) A method as in claim 29 which further comprises isolating and/or purifying and/or cloning the gene or genes that encode(s) said receptor or receptors.

31. (Currently amended) A method as in claim 30 which further comprises using said receptor or receptors in a method of screening for said factors or factors obtained~~obtainable~~ from type 1 astrocytes of the ventral mesencephalon.

32. (Currently amended) A method of screening to identify~~for~~ a factor or factors which, either alone or in combination, induce a dopaminergic fate in a neural stem or progenitor cell expressing Nurr1 above basal levels, the method comprising:

(a) bringing Type 1 astrocyte molecules into contact with a neural stem cell or neural progenitor cell expressing Nurr1 above basal levels, which contact allows binding between the Type 1 astrocyte molecules and the neural stem or progenitor cell; and

(b) determining binding between the Type 1 astrocyte molecules and the stem or progenitor cell the occurrence of said binding identifying said molecules as containing said factor or factors.

33. (Previously presented) A method according to claim 32 which comprises comparing molecules of Type 1 astrocytes of the ventral mesencephalon with those of neural cells which are unable to induce a dopaminergic fate in neural stem or progenitor cells expressing Nurr1 above basal levels.

34. (Currently amended) A method of screening to identify~~for~~ a factor or factors which, either alone or in combination, induce a dopaminergic fate in a neural

stem or progenitor cell expressing Nurr1 above basal levels, the method comprising culturing a neural stem cell or neural progenitor cell expressing Nurr1 above basal levels in the presence of Type 1 astrocyte molecules and analyzing said cell for differentiation to a dopaminergic phenotype the occurrence of said differentiation identifying said molecules as containing said factor or factors.

35. (Original) A method according to claim 34 which comprises comparing Type 1 astrocytes of the ventral mesencephalon with neural cells which are unable to induce a dopaminergic fate in neural stem or progenitor cells expressing Nurr1 above basal levels.

36. (Canceled)

37. (Currently amended) A method according to claim 31 wherein a factor or factors able to induce a dopaminergic fate in a neural stem or progenitor cell expressing Nurr1 above basal levels is or are provided in said method of screening in isolated and/or purified form.

38. (Previously presented) A method according to claim 31 wherein a factor or factors able to induce a dopaminergic fate in a neural stem or progenitor cell expressing Nurr1 above basal levels is or are formulated into a composition comprising one or more additional components.

39. (Original) A method according to claim 38 wherein the composition comprises a neural stem or progenitor cell expressing Nurr1 above basal levels.

40. (Currently amended) A method according to claim 39~~38~~ wherein the composition comprises a pharmaceutically acceptable excipient.

41. (Previously presented) A method according to claim 40

further comprising administering the composition to an individual.

42. (Previously presented) A method according to claim 41 wherein the composition is implanted into the brain of the individual.

43. (Previously presented) A method according to claim 42 wherein the individual has Parkinson's disease.

44.-61. (Canceled)

62. (New) The method according to claim 1, also including contacting the cell with a substance which has the effect of modulating the ability of Type 1 astrocytes of the ventral mesencephalon, or at least one molecule of said astrocytes to induce said dopaminergic neuronal fate in neural stem cells or neural progenitor cells expressing *Nurr1* above basal levels, said substance producing said modulating effect being identified by a screening method comprising:

(i) co-culturing Type 1 astrocytes with neural stem or progenitor cells which express *Nurr1* above basal levels in the presence of at least one test substances; or

(ii) analyzing the proportion of stem or progenitor cells which adopt a dopaminergic fate;

(iii) comparing the proportion of stem or progenitor cells which adopt a dopaminergic fate with the number of stem or progenitor cells which adopt a dopaminergic fate in comparable reaction medium and conditions in the absence of said at least one test substance, a difference in the proportion of dopaminergic neurons between the treated and untreated cells identifying

said at least one substance as producing said modulating effect.

63. (New) A method according to claim 62 wherein a substance which modulates the ability of Type 1 astrocytes of the ventral mesencephalon, or a molecule or molecules of such astrocytes, to induce a dopaminergic fate in neural stem or progenitor cells expressing Nurr1 above basal levels, is provided in isolated and/or purified form.

64. (New) A method according to claim 62 wherein a substance which modulates the ability of Type 1 astrocytes of the ventral mesencephalon, or a molecule or molecules thereof, to induce a dopaminergic fate in neural stem or progenitor cells expressing Nurr1, above basal levels, is formulated into a composition comprising one or more additional components.

65. (New) a method according to claim 64 wherein the composition comprises a pharmaceutically acceptable excipient.

66. (New) A method according to claim 65 further comprising administering the composition to an individual.

67. (New) A method according to claim 66 wherein the composition is implanted into the brain of the individual.

68. (New) A method according to claim 67 wherein the individual has Parkinson's disease.

69. (New) A method according to claim 32 which comprises comparing the differential expression of molecules of Type 1 astrocytes of the ventral mesencephalon with those of neural cells which are unable to induce a dopaminergic fate in neural stem or progenitor cells expressing Nurr1 above basal levels.